# Explosive Destruction System overview

*The Explosive Destruction System destroys recovered chemical warfare materiel while protecting workers and the environment. The larger EDS 2, above, entered service in 2003.*

The U.S. Army Non-Stockpile Chemical Materiel Project (NSCMP) designed the Explosive Destruction System (EDS) to provide on-site treatment of chemical warfare materiel in a safe, environmentally sound manner. Designed by NSCMP and constructed by Sandia National Laboratories, the EDS serves as a transportable technology supporting both planned and emergency operations. Sandia built five EDS units for NSCMP, which retains the system's patent. The EDS 1 entered service in 1999; the larger EDS 2 finished extensive testing in March 2006 and began operations alongside an EDS 1 at Pine Bluff Arsenal on June 14, 2006.

Both EDS 1 and EDS 2 use cutting charges to explosively open chemical munitions, destroying their explosive elements and neutralizing any chemical agent contained within the munition. The system's main component, a sealed, stainless steel containment vessel, contains all the blast, vapor and fragments from the munition, protecting the surrounding environment. Chemical agent neutralization also occurs in the containment vessel when operators add reagent after accessing the chemical fill.

The success of the EDS 1 at sites such as Aberdeen Proving Ground, Md., and Spring Valley in Washington, D.C., led to the development of the EDS 2. Constructed to contain larger materiel in both size and explosive content, EDS 2 weighs 60,000 pounds, compared to the 20,000-pound EDS 1. Since both systems are mounted on trailers, they can be transported where they are needed, with the EDS 1 using a 30-foot trailer, and EDS 2 carried on a 40-foot trailer.

Both systems are approved to handle bomblets, 75 mm projectiles, mortars and Livens projectiles. The EDS 2 also can handle 155 mm and 8-inch projectiles. Both systems can treat up to three 4.2-inch rounds at a time, enabling the Army to treat more items in less time while maintaining high levels of safety and efficiency.

The amount of explosive that can be used in the systems is rated for TNT equivalent, the standard for measuring the potential energy

OVER ▶

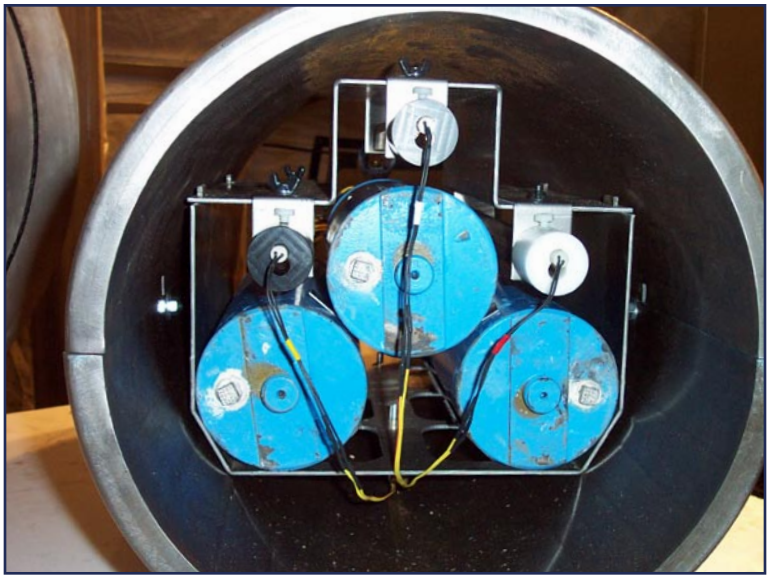
For more information, contact the CMA Public Affairs Office at
(410) 436-3629
(800) 488-0648

NS_info_EDS_overview_07_08.indd

# Explosive Destruction System overview (continued)

of explosives. The EDS 1 can handle up to 1.5 pounds of TNT equivalent, while the EDS 2 can handle up to 4.8 pounds of TNT equivalent.

EDS 2 completed field-testing and approval in the United Kingdom and at Aberdeen Proving Ground. A second EDS 2 unit, identical to the first has been tested for processing six chemical-filled rounds at one time, further increasing the efficiency of the system. This system has been tested in Albuquerque, N.M., and Aberdeen Proving Ground, Md.



*Three rounds are loaded into the fragment suppression system (FSS) for treatment.*

| Feature | EDS 1 | EDS 2 |
|---|---|---|
| ***Length*** | 30 feet | 40 feet |
| ***Width*** | 8.5 feet | 9 feet |
| ***Weight*** | 20,000 pounds | 60,000 pounds |
| ***Vessel capabilities*** | 1.5 pounds of TNT and 18 pounds of chemical fill | 4.8 pounds of TNT and 36 pounds of chemical fill |
| ***Field-testing approval*** | Tested in the United Kingdom and Aberdeen Proving Ground, Md. | Tested in the United Kingdom and Aberdeen Proving Ground, Md. |
| ***What it treats*** | Recovered munitions such as M139 bomblets, 75 mm projectiles, 4.2-inch mortar, Stokes mortar and Livens projectiles. Capable of processing three items at a time for 75 mm projectiles and 4.2-inch mortars. | Can process everything the EDS Phase 1 can process, plus 155 mm and 8-inch projectiles. Tested and approved to treat six items at a time, as well as German Traktor rockets. |
| ***Why it was developed*** | For disposal of chemical warfare materiel in a safe, environmentally responsible manner. | For disposal of chemical warfare materiel, including larger munitions and larger quantities of munitions, in a safe, environmentally responsible manner. |
| ***Completed operations*** | Aberdeen Proving Ground, Md.; Camp Sibert, Ala.; Spring Valley, D.C.; Dover Air Force Base, Del.; and Dugway Proving Ground, Utah. | Extensive testing completed. Operations at Pine Bluff Arsenal began June 14, 2006. |